REMARKS[1]

I. Claim Rejections under Sections 102/103

In paragraphs 1-5 of the final Office Action, the Examiner rejected Claims 10-18 as being anticipated under 35 U.S.C. §§ 102(b)/(e) or as being obvious under 35 U.S.C. § 103 over any one of the following sixteen references: (1) Dyer et al., U.S. Patent No. 5,767,168; (2) Carpenter et al., U.S. Patent No. 5,725,780; (3) Suzuki, U.S. Patent No. 5,723,363; (4) Blankenship et al., U.S. Patent No. 5,304,707; (5) Argabright et al., U.S. Patent No. 4,397,748; (6) Helke, U.S. Patent No. 4,237,004; (7) Bahr et al., U.S. Patent No. 4,131,563; (8) Inagaki et al., U.S. Patent No. 5,994,423; (9) Matsubara, U.S. Patent No. 4,645,698; (10) Matsubara, U.S. Patent No. 4,686,776; (11) Misaka et al., U.S. Patent No. 4,500,652; (12) Walker et al., U.S. Patent No. 4,425,463; (13) Heyl et al., U.S. Patent No. 5,639,378; (14) Turner et al., U.S. Patent No. 4,425,461; (15) Isohata, U.S. Patent No. 5,789,076; and (16) Derwent Abstract 1997-490834. In response, Applicant has amended the claims to expressly recite that the polymers of the present invention are from waste (i.e., used materials). Support for this amendment is found on page 16 (discussing the source of the polymers) and the various examples, e.g., page 17, line 21 (used transparent guard panel of cassette tape), page 18, line 14 (used black guard panel of cassette tape). Applicant respectfully submits that this limitation is neither taught or suggested by the cited references. The claimed invention provides for a novel use for waste materials – namely as a cleansing processing agent.

A. Dyer et al. '168 Patent

The Dyer Patent is directed to "biodegradable and/or compostable polymers" which are used as absorbent foams for use in diapers and similar products. An acid or alkali is not

[1] Pursuant to 37 C.F.R. § 1.121, Applicant has attached "on one or more pages separate from the amendment, marked up to show all of the changes relative" to the previous versions of the paragraphs and claims.

added to the polymer in order to activate the polymer into a cleansing processing agent. In addition, the polymers are not derived from waste materials. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under Sections 102 and 103.

B. Carpenter et al. '780 Patent

The Carpenter Patent is directed to a method for flocculating suspended solids from an aqueous system. The flocculent copolymer compositions include acrylonitrile and styrene sulfonic acid. See column 5, lines 44-64. However, the polymers are not derived from waste or used materials. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under Sections 102 and 103.

C. Suzuki et al. '363 Patent

The Suzuki Patent discloses a solidifying material for radioactive wastes which includes a "dispersing agent." The dispersing agent may be a polymer, for example, acid/styrene. The dispersing agent may also be a copolymer of acrylonitrile. However, the Suzuki Patent does not teach or suggest using waste or used materials as the polymers. Therefore, withdrawal of the 102/103 rejection is respectfully requested.

D. Blankenship et al. '707 Patent

The Blankenship Patent is directed to a method for solidification or encapsulation of compositions containing an aqueous phase. Core-shell polymer particles are neutralized with a base, which swell and absorb all of the aqueous phase. The core component includes one or more monomers which include styrene and acrylonitrile. See column 3, lines 50-58. Again, however, the Blankenship Patent does not disclose using waste or used materials as the polymers. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under Sections 102 and 103.

E. Argabright et al. '748 Patent

The Argabright Patent is directed to a method of treating sewer systems with a polymer to reduce the drag in the system. The patent is not directed to a waste removal

method at all. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under Sections 102 and 103.

F. Helke '004 Patent

The Helke Patent is directed to a method of treating waste water which includes a coagulant. The specification teaches that the composition may be made of a wide variety of different monomers, including acrylonitrile and styrene. See column 9, lines 34-50. However, the polymers are not derived from waste or used materials. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under Sections 102 and 103.

G. Bahr et al. '563 Patent

The Bahr Patent discloses a process for preparing solid radioactive or toxic wastes for handling and storage by contacting the waste with a polymerizable mixture. The specification teaches that the monovinyl compounds that are polymerized may include styrene and acrylonitrile. See column 1, lines 55-62. However, the polymers are not from waste material. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under Sections 102 and 103.

H. Inagaki et al. '423 Patent

Applicant is submitting a certified copy of the priority document (Japanese Patent Application P10-046020 filed on February 26, 1998) concurrently with this response. Accordingly, Applicant submits that the Inagaki Patent is improperly cited as a reference under §§ 102(e)/103 against the present patent application. The critical reference date for the Inagaki Patent is October 6, 1998 – the United States filing date. Applicant now believes that the cited reference has been properly antedated. See MPEP § 2136.03 (citing In re Hilmer, 359 F.2d 859 (C.C.P.A. 1966)). Therefore, Applicant requests that the Examiner withdraw the rejection.

I. Matsubara '698 Patent

The Matsubara Patent is directed to a dehydrating device which includes a polymeric water absorber. The specification notes that the polymers include acrylonitrile and sulfonated styrene. However, the reference does not teach or suggest using waste polymers. Withdrawal of the rejection is therefore respectfully requested.

J. Matsubara '776 Patent

The Matsubara Patent is also directed to a dehydrating device. Like the other Matsubara Patent, it discloses that the polymeric water absorber is obtained by graft-polymerizing water-soluble polymerizable monomers ... such as acrylonitrile ... to polysaccharides ... and products obtained by three-dimensionally crosslinking hydrophilic polymers such as ... sulfonated polystyrene." See column 2, lines 25-44. Again, however, the patent does not teach or suggest that these substances can be derived from waste materials. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under Sections 102 and 103.

K. Misaka '652 Patent

The Misaka Patent is directed to a cation exchange resin which involves a copolymer of styrene, divinylbenzene, and acrylic or methacrylic acid that undergoes sulfonation. The patent notes that acrylonitriles are used in anion exchange resins but not in cation exchange resins. Thus, Applicant respectfully contends that the claimed polymers are not disclosed by the reference. In addition, the Misaka Patent does not teach that such polymers are waste materials. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection under Sections 102 and 103.

claims

L. Walker et al. '463 Patent

The Walker Patent discloses a viscosification agent for oil-based drilling muds which includes polymers of polystyrene and acrylonitrile that are sulfonated. The patent is not

directed to a cleansing method. Moreover, the polymers are not from waste materials. Therefore, withdrawal of the 102/103 rejection is respectfully requested.

M. Heyl et al. '378 Patent

The Heyl Patent is directed to an ophthalmic solution dispensing device which uses an ionic exchange material, such as sulfonated tertpolymers of styrene, divinylbenzene, and acrylonitrile or methyl acrylate to regulate the pH of the solution. However, none of the polymers are derived from waste materials

N. Turner et al. '461 Patent

Like the Walker Patent, the Turner Patent is directed to a viscosification agent that is added to oil-based drilling muds to maintain pressure and cool the drill bits. The reference is not directed to a cleansing method. In addition, the polymers are not from waste materials. Accordingly, Applicant requests that the Examiner withdraw the rejection.

O. Isohata '076 Patent

The Isohata Patent is directed to a liquid-absorbent sheet. A "polymeric water absorbent" includes the "crosslinked products of polymers prepared by graft polymerizing a polysaccharide (e.g., starch or cellulose) with one or more substances selected from the group consisting of ... acrylonitrile, ... sulfonated styrene." None of the polymers are from waste products. Therefore, withdrawal of the 102/103 rejection is respectfully requested.

P. Derwent Abstract

This reference teaches that certain polymers are useful as "anti-encrustation" dispersers. Applicant respectfully submits that this does not include the cleansing method of the claimed invention. Moreover, Applicant notes that there is no disclosure that the polymers can be from waste materials. Withdrawal of the rejection is therefore requested.

In sum, Applicant believes that none of the cited references teach or suggest that a polymer that is a waste material (i.e., used) can be used as a cleansing agent. Applicant therefore believes that the claimed invention is patentable in view of the cited references.

Accordingly, Applicant respectfully requests that the Examiner withdraw the rejections under Sections 102 and 103.

CONCLUSION

In view of the present amendments to Applicant's claims and corresponding remarks contained herein, reconsideration and allowance of the application by the Examiner is requested. Applicant submits that the independent claims and the claims depending therefrom are patentable over the art cited by the Examiner and are in condition for allowance, which action is hereby respectfully requested. The art applied by the Examiner has been reviewed by Applicant and is believed not to anticipate or render obvious any claims in the application.

Respectfully submitted,

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I hereby certify that this document and any being referred to as attached or enclosed is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to Assistant Commissioner for Patents, Washington, DC 20231 on:

8/27/01 Connie Q. Mills
Date Connie Mills

Inventor: **Yasuhito Inagaki et al.** **Serial No. 09/253,048**

For: **CLEANSING PROCESSING AGENT, CLEANSING METHOD EMPLOYING THE AGENT AND A MOLDED STRUCTURAL MEMBER**

MARK-UP OF CLAIMS

10. (twice amended) A cleansing method comprising:

providing a cleansing processing agent, said cleansing processing agent comprising a polymer having acrylonitrile and at least one of styrene and conjugate diene as constituent unit and into which are introduced ~~hydrophillic~~ hydrophilic groups by adding an acid or an alkali to the polymer and said polymer being a waste material;

bringing the cleansing processing agent into contact with a material to be cleansed; and adsorbing substances contained in said material.